



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

No. VIII.

IMPROVED SCREEN GLASSES FOR QUADRANTS AND SEXTANTS.

The GOLD VULCAN MEDAL was this session presented to Mr. W. J. T. HOOD, Lieut. R. N., for his improved SCREEN-GLASSES FOR QUADRANTS AND SEXTANTS intended for use on board ship. The following communication has been received from the candidate, and a model of his invention has been placed in the Society's repository.

SIR, No. 9, Upper Thames-street, April 9, 1824.

HAVING observed at sea that one of the most important objects, that of finding a ship's latitude by observation with the common sextant and quadrant, is very frequently rendered uncertain, and even the opportunity altogether lost, from the circumstance of the observer being obliged (when the clouds in hazy weather are passing fast by the sun) to take the instrument from the eye for the purpose of shifting the screen glasses, when a change of shade is necessary; I have to beg you will be pleased to lay before the Society of Arts the model of a quadrant I have caused to be fitted with axles, which are equally applicable to the sextant, for the purpose of obviating this difficulty, and thereby insuring greater security to the ships and lives of our navigators.

To the fore limb of the instrument is attached a wire axle, with two revolving tubes over it, serving each as a distinct axle and lever to the screens; so, that when the

instrument is held with either hand, perfect command of the screens is retained by the three fore fingers.

I am, Sir,

A. Aikin, Esq.

Secretary, &c. &c.

&c. &c. &c.

W. J. T. HOOD, Lieut. R. N.

CERTIFICATES.

THE following letters are subjoined as being from persons well qualified to judge of the probable utility of Lieut. Hood's invention.

DEAR SIR,

Woolwich, May 9, 1824.

LIEUT. Hood having shown me the model of his improved sextant, and having expressed a wish that I would state my opinion to you of the merits of the construction. I beg to say, that I conceive there will be great practical convenience in being able to change the shades without moving the instrument from the eye; and that I am not aware of any practical objection that can be made to the adoption of the means recommended by Lieut. Hood, which appear to me to be very simple, and deserving the encouragement of the Society of Arts. I have frequently experienced great inconvenience, in light cloudy weather, by having to change the shades backwards and forwards as different clouds intervene.

I am, Sir,

A. Aikin, Esq.

Secretary, &c. &c.

&c. &c. &c.

P. BARLOW.

DEAR SIR,

Cheltenham, May 9, 1824.

IN reply to your letter, requesting my opinion on the improvement you have lately invented on the quadrant, I have no hesitation in saying, that I consider it not only a very *ingenious* but most *useful* one also, as it must greatly tend to facilitate astronomical observations at sea, particularly in thick and cloudy weather; and I hope will be generally adopted, as there can be no doubt, in my opinion, of its being an improvement of great utility, and not a little consequence.

I am, Sir,

&c. &c. &c.

S. H. INGLEFIELD, *Capt. R. N.**Lieut. W. J. T. Hood, R. N.*

FROM Vice-Admiral Sir B. Hallowell, K. C. B., commander-in-chief at Chatham.

DEAR SIR,

Chatham, May 12, 1824.

I HAVE seen your improvement on the sextant and quadrant, and have no doubt of the great advantage that will be derived from it in obtaining the altitude of the sun at sea in cloudy weather.

I am, Sir,

&c. &c. &c.

Lieut. Hood, R. N.

BEN. HALLOWELL.

FROM Thomas Young, Esq. M. D., Secretary to the Board of Longitude.

SIR,

Admiralty, April 3, 1824.

I AM directed to return you the thanks of the Board of Longitude for the exhibition of your improved sextant, which was examined at the meeting of the Board on Thursday last, and to express their approbation of your invention.

I am, Sir,

&c. &c. &c.

THOS. YOUNG, M. D.

Secretary to the Board of Longitude.

Lieut. Hood, R. N.

SIR,

62, Charing-cross, May 10, 1824.

IN compliance with your wishes respecting my opinion of your improvement in the arrangement of the dark glasses for quadrants, I beg to observe, that your invention is new, useful, and expeditious. Its simplicity is such as not to interfere with the other parts of the instrument, and its expedition in changing the glasses is such that, by its means, observations may frequently be obtained in cloudy weather, which could not be accomplished by the common or usual quadrant, on account of the time required in shifting the shades.

I am, Sir,

&c. &c. &c.

Lieut. Hood, R. N.

THOS. JONES.

SIR,

Leadenhall-street, May 8, 1824.

IN answer to your favour, accompanying the quadrant to which you have attached a new method of changing the screens, I beg leave to state, as my opinion thereof, that, with a very little practice in its use, I consider it may be very advantageous in the obtainment of altitudes of the sun, when from the interposition of clouds, there is a necessity for changing the screens frequently: that your method provides for this without the necessity of taking the attention of the eye from its object, which is still more important in cases of altitudes for the attainment of the apparent time and latitude, both by double altitudes and that of the sun on the meridian, which are not unfrequently lost for the want of such convenience, which might be attended with serious consequences to the navigator.

I am, Sir,

&c. &c. &c.

Lieut. Hood, R. N.

THOS. LYNN.

SIR,

Leadenhall-street, April 20, 1824.

AS you require our opinion on the utility of your improved method of shifting the screen-glasses of the sextant or quadrant, we beg to say that we think it likely to become generally useful, and not in any way injurious to the frame of the instrument.

We are, Sir,

&c. &c. &c.

Lieut. Hood, R. N.

WM. & T. GILBERT.

*Reference to the engraving of Lieut. Hood's Quadrant
for naval use.—Plate X.*

FIG. 1 is a front, and fig. 2 a side view of the quadrant : the same letters refer to the same parts in each figure.

The quadrant is made in the usual way, with the exception of the fittings up of the screen-glasses. The uppermost screen *a* is fixed on a wire-axle *b c* ; at each end of the axle is a pivot *b c* ; the pivot *b* turns in a hole in a boss *d*, which is fixed to the upper end of the instrument : the lower pivot *c* turns in a hole near to the end, and in the upper side of the arch. On the lower part of the axle is fixed a boss or roller *e*, made of hard wood, and turned a little hollow in the middle, so as to feel easy to the finger ; the middle screen *f* is fixed on the upper end of a brass tube or hollow axle *g*, through which the axle *b c* passes, and is at liberty to turn freely within it ; on the lower end of the axle *g* is fixed a brass or roller *h*, similar to the boss *e*, as before described ; the lowest screen *i* is also fixed on the upper end of another brass tube or hollow axle *j*, through which the axle *a b* and the tube *g* pass ; and all of them are at liberty to turn freely within or upon one another ; on the lower end of the axle *j* is fixed a boss or roller *k*, similar to those of *e* and *h*, and which must be at proper distances from each other, so as to coincide with the three first fingers of either hand ; consequently, when the instrument is held up, a perfect command of the screens is retained by the fingers, without removing the instrument from the eye, when a change of shade is necessary.

Fig. 3 is a section of the screen-glasses, axles, &c., and fig. 4 is a view of the under side of one of the screen-glasses.

The two last figures are drawn to a scale of double the size of figs. 1 and 2.